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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,839	04/15/2004	Lee Teck Kheng	MI22-2460	9446
21567	7590	11/16/2006	EXAMINER	
WELLS ST. JOHN P.S. 601 W. FIRST AVENUE, SUITE 1300 SPOKANE, WA 99201			LE, THAO X	
			ART UNIT	PAPER NUMBER
			2814	

DATE MAILED: 11/16/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/825,839

Applicant(s)

KHENG, LEE TECK

Examiner

Thao X. Le

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-4, 7 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-4, 7 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. _____  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>10/24/06</u>  | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 2-4, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by US 6486544 to Hashimoto.

Regarding claim 7, Hashimoto discloses a semiconductor package in fig. 1B, comprising a interposer construction containing only a single dielectric support member 10, col. 5 line 10, and comprising a plurality conductive circuit traces 12/14/16, col. 5 line 38, contacting the single dielectric support member 10, a semiconductor die 20 or 30, col. 5 line 9, electrically connected with at least one of the traces 16; at least one of the circuit traces 16 being between the semiconductor die 20 or 30 and the dielectric support member 10; the dielectric support member 10 having a first surface and an opposing second surface, fig. 1B, the circuit traces 16 being over the first surface, fig. 1B, openings 18, col. 5 line 59, extending through the second surface to at least some

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of the circuit traces 16; contact pads, col. 6 lines 55-60, within one or more of the openings and in electrical connection with one or more of the circuit traces 16, the contact pads being entirely contained within the openings; and solder balls 40, col. 6 line 60, in electrical connection with the contact pads.

Regarding claims 2-4, Hashimoto discloses the semiconductor package wherein the support member 10 is a photomask material (polyimide) or not a photo mask material (inorganic or ceramic), col. 5 lines 10-18, wherein the one or more circuit traces 12/14/16 comprises copper, col. 5 line 26.

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 7 and 8 are rejected under 35 U.S.C. 102(e) as being anticipated by US 6876074 to Kim.

Regarding claim 7, Kim discloses a semiconductor package in fig. 3, comprising a interposer construction containing only a single dielectric support member 221, col. 4 line 40, and comprising a plurality conductive circuit traces 233, col. 4 line 45, contacting the single dielectric support member 221, a semiconductor die 210, col. 4 line 17, electrically connected with at least one of the traces 233; at least one of the circuit traces 233 being between the semiconductor die 210 and the dielectric support

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member 221; the dielectric support member 210 having a first surface and an opposing second surface, fig. 3, the circuit traces 233 being over the first surface, fig. 3, openings 228, col. 5 line 7, extending through the second surface to at least some of the circuit traces 233; contact pads, col. 5 line 7 (electrical connection between 231 and 233), within one or more of the openings and in electrical connection with one or more of the circuit traces 233, the contact pads being entirely contained within the openings; and solder balls 260, col. 5 line 66, fig. 2, in electrical connection with the contact pads.

Regarding claim 8, Kim discloses the semiconductor package wherein the dielectric support member 221 has a slit (where 240 is located), fig. 3, extending therethrough; the electrical connection of the semiconductor die 210 to said at least one of the circuit traces 233 includes one or more wire bonds 240, col. 4 line 53, extending from the die 210, through the slit, and into at least one of the openings, fig. 3.

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 2-4 and 7-8 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao X. Le whose telephone number is (571) 272-1708. The examiner can normally be reached on M-F from 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael M. Fahmy can be reached on (571) 272 -1705. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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A handwritten signature in black ink, consisting of a stylized 'T' followed by a horizontal line and a vertical stroke.

**THAO X. LE**  
**PRIMARY PATENT EXAMINER**